MISYS Ⓜ

Ad hoc Reports

User Guide

Contents

1 Introduction

Climate Registry Information System (CRIS) Ad hoc Reports is a feature that can be used for *Online Analytical and Processing (OLAP)*. The data for ad hoc reports is based on emissions reporting data, reported by members from the Massachusetts Department of Environmental Protection (MassDEP) program. This feature is accessible from CRIS web application on https://www.crisreport.org/, and you can select the type of reported emissions data and customize its presentation for analysis.

1.1 Target Audience

The target audience for this document are guest (not logged in) users and logged in users of CRIS, accessing MassDEP program reported emissions data for purpose of analysis.

1.2 Prerequisites

The following are the prerequisites to access and use ad hoc reports:
1. Knowledge of CRIS application.
2. Knowledge of emissions data capture.
3. Basic knowledge of OLAP concepts.

2   CRIS Ad hoc Reports Concepts

CRIS records and displays data for MassDEP program for its facilities and emissions data. Ad hoc reports use this data and represent it based on the OLAP cube concept. An OLAP cube is multi-dimensional, with elements in the dimensions arranged in a hierarchy and values being represented as measures. You can select one or more dimensions, select elements from the hierarchy, filter dimensions to display and the measure displays values for the multi-dimensional selection. The subsections in this topic provide information on concepts for dimensions, hierarchies and filters specific to ad hoc reports in CRIS.

2.1   Dimensions

Distinct elements from the CRIS database are configured to display data on ad hoc reports. These elements are called *dimensions*. Dimensions are displayed on rows (X-axis) or columns (Y-axis). The following are dimension elements in CRIS ad hoc reports:
1. Facilities
2. Emissions
3. Submission
4. Gas
5. Measures
   Note: *Measures* is a dimension that displays values for individual dimensions or a combination of dimensions on columns (Y-axis).

2.2   Hierarchies

Dimensions are further classified into *parent* and *child* elements with the arrangement termed *hierarchy*. They are specified for each dimension and have multiple hierarchical structures. This arrangement allows you to select specific elements for data analysis. The following subsections provide information for the dimensions configured for CRIS ad hoc reports. The exception to this is *Measures* dimension which displays values for selected elements and is dynamic in nature.

2.2.1 Facilities

The hierarchical elements for the Facilities dimension are listed in the following:
- All facilities for MassDEP program
- A specific facility

2.2.2 Emissions

The hierarchical elements for the Emissions dimension are listed in the following:
- All emissions
- Scope specific emissions

- Specific to activity type for a scope
- Specific to fuel for an activity type
- Specific to fuel type for a fuel
- Specific to end user sector for a fuel type
- Specific to technology for an end user sector

2.2.3 Submission

The hierarchical elements for the Submission dimension are listed in the following:
- All submissions
- Submissions specific to a year
- Specific to submission states
  Note: You can view data in ad hoc reports for the following submission states: *Accepted by MA DEP*, *Verification in Progress*, *Verification Submitted*, *Verification Accepted* and *Verification Challenged*.

2.2.4 Gas

The hierarchical elements for the Gas dimension are listed in the following:
- All gases
- Specific to a gas

2.3 Filters

Filters are an extensive feature in ad hoc reports. You can filter based on:
- Combinations for dimensions
- Hierarchies within dimensions
- Including or removing dimensions
- Including or removing values
- Filtering datasets
- Drilldown

Based on your requirement or preferences, you can filter data and generate it on the ad hoc reports display. Further sections in this document provide information for using ad hoc reports.

3 Ad hoc Reports Access

Ad hoc reports can be accessed by guest users and logged-in users. The following subsections describe the procedure to access ad hoc reports for the respective type of users.

3.1 Guest Users

The procedure to access ad hoc reports for a guest user is described in the following:
1. Enter the url https://www.crisreport.org/ to open CRIS application in a browser.
2. Click **Access Public Reports** to display **Analysis and Reports Overview**.

Access Public Reports ❭

3. Click **Ad hoc Reports** from left menu to display **Ad hoc Reports** application.

3.2 Logged-In Users

The procedure to access ad hoc reports for a logged-in user is described in the following:
1. Enter the url https://www.crisreport.org/ to open CRIS application in a browser.
2. Login to the application with your user id and password.
3. Click **Analysis and Reports** from the top menu to display **Analysis and Reports Overview**.
4. Click **Ad hoc Reports** from left menu to display **Ad hoc Reports** application.

4 Ad hoc Reports Display

The display or interface for ad hoc reports consists of a toolbar ⚙ 🔽 🖼 to the top left followed by data represented in tabular form on rows and columns. By default, the tables display data in a collapsed view with features that enable you to expand or collapse data. This allows you to select required desired data and view its values. The dimensions are represented on rows and the measures are represented on columns. The following illustration is a representation of the default view:

Adhoc Reports

Ad hoc reports may be used to search and review GHG emissions data that has been reported by facilities in MA. Additional information about MassDEP's GHG Reporting Program, including program requirements, information about using the MA GHG Registry, a summary of reported emissions data, and contact information for the helpline is available at http://www.mass.gov/dep/air/climate/reporting.htm.

⚙ 🔽 🖼

				Measures
Facilities	Emissions	Submission	Gas	● Sum of Co2e Metric Tons
+All Facilities	+All Emissions	+All Submissions	+All Gases	76,597,336.29851

Note: Further sections in this topic describe ad hoc reports in the following order: function of the toolbar icons, change display settings tool (OLAP configuration), drilldown navigation view and print/export of data.

4.1 Toolbar Icons

The toolbar is located at the top-left on ad hoc reports and contains three icons to perform operations for ad hoc reports. Move the mouse over the icons to display the function for each icon. The icons are described in the following:

1. **Change Display Settings** ⚙ - Click to open the *Display Settings Configuration* tool which displays measures and dimensions. You can perform operations on the displayed list to create columns, rows or apply data filters.

2. **Print this page via PDF** 🔽 - Click to print the current display on the ad hoc reports screen. You can drill (select/filter) data and print it in PDF format.

3. **Start Excel** 🖼 - Click to export the current display on the ad hoc reports screen. You can drill (select/filter) data and export it into an excel spreadsheet.
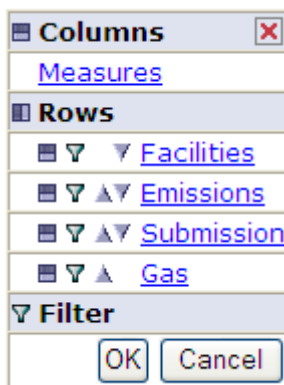
4.2 Change Display Settings Configuration

Change Display Settings is the configuration tool where you can arrange or rearrange dimensions' order, pivot data from columns to rows and vice versa, and filter the data set to be displayed on ad hoc reports. This allows you to change the default ad hoc reports view and configure it as required by you.

Note: Any configuration changes you make to the display are available only for the current session. The system resets to the default display settings once the current session expires or you close it.

4.2.1 Change Display Settings Access

Click ⚙ to open **Change Display Settings** tool to display default ad hoc reports measures and dimensions. By default, dimensions are configured to display on rows (X-axis), and the measures on columns (Y-axis). The following illustration is the default OLAP configuration for CRIS ad hoc reports:
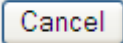
4.2.2 Change Display Settings Operations

Access the **Change Display Settings** tool. Most of the operations for configuration are done by clicking on the icons and using the **OK** and **Cancel** buttons. The following is a list that describes the operations for the various icons and buttons:

- ▦ - Click on this icon to move a dimension or measure from a row to a column.
- ▥ - Click on this icon to move a dimension or measure from a column to a row.
- ▼ - Click on this icon to move a dimension or measure into filter. The filtered dimension or measure will not be displayed on ad hoc reports.
- ▲ - Click on this icon to move up the dimension or measure in the display order.
- ▼ - Click on this icon to move down the dimension or measure in the display order.
- ☒ - Click to close the **Change Display Settings** tool.

- OK - Click to save the configuration changes made by you on the **Change Display Settings** tool. This is available only for the current session and the system resets to the default configuration on closing the session.
- Cancel - Click to reject the configuration changes made by you on the **Change Display Settings** tool.

Click on the following link to see an example for pivoting data:
- [Pivoting Data](#)

4.2.3 Filtering Datasets
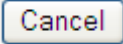
Dimensions consist of data in tabular form. You can select the elements that you want to display for ad hoc reports by filtering the dataset for columns and rows.
You can filter datasets for elements existing in the following dimensions:
- Measures
- Facilities
- Emissions
- Submission
- Gas

[Access](#) the **Change Display Settings** tool. Click on the hyperlinked dimensions on the tool to display the elements for the dimensions. Use filtering of datasets to specify or change ad hoc reports display. Filtering dataset operations are done by expanding elements to display with checkboxes, clicking checkboxes for the required elements and using buttons from the bottom of the tool. The following is a list that describes the operations for the various checkboxes, icons and buttons:
- ☑ - Click on a box to select or remove a particular element for ad hoc display. A check mark indicates that the element is selected for ad hoc display and an empty box indicates that the element is to be removed from the ad hoc display. By default, the top level element in the hierarchy of a dimension is selected for display on rows and displays all elements for ad hoc reports.
- None - Click to remove the checkbox selection from all elements for the displayed dimension. This action selects none and toggles the button to *All*.
- All - Click to add the checkbox selection for all elements for the displayed dimension. This action selects all and toggles the button to *None*.
- ✚ - Click on the icon to expand the selected element and display its child elements.
- ▬ - Click on the icon to collapse and hide child elements for the selected element.
- ☒ - Click to close the **Change Display Settings** tool for filtering datasets.
- OK - Click to save the filtering dataset selection made by you on the **Change Display Settings** tool. This is available only for the current session and the system resets to the default configuration on closing the session.

- **Cancel** - Click to reject the filtering dataset selection made by you on the **Change Display Settings** tool.

Click on the following link to see an example for filtering datasets:

- [Filtering Datasets](#)

4.3 Drilldown Navigation View

Use the drilldown navigation system to select the required dimensions and required hierarchies, and filter to derive the desired data into ad hoc reports view. The default view for ad hoc reports is a collapsed state for all dimensions and hierarchical elements. The following illustration is an example for the default view:

Facilities	Emissions	Submission	Gas	Measures · Sum of Co2e Metric Tons
+All Facilities	+All Emissions	+All Submissions	+All Gases	76,597,336.29851

Click [+] to expand and click [−] to collapse the various elements and view the data.

By default, the values for Measures, displayed for the drilldown selection, is arranged in Natural Order [●]. Clicking [●] will sort measures in Hierarchy Ascending order displaying the [▲] icon. Clicking [▲] will sort measures in Hierarchy Descending order displaying the [▼] icon. Clicking [▼] will return the sort order for Measures to Natural Order [●].

Click on the following link to see an example for drilldown navigation:

- [Drilldown navigation](#)

Note:
1. The selected data may take some time to display based on the volume of data.
2. If '*Jpivot is busy*' message is displayed, it may take some time to load the page.
3. The selected data that is displayed on ad hoc reports can be printed in PDF format or exported into a MS Excel spreadsheet. To print or export, see [Print or Export Report](#).

4.4 Print or Export Report

You can print the drilled-down and filtered data in PDF format or export it into a MS Excel spreadsheet. To print in PDF format, click ⬇ (**Print this page via PDF**). To export into an excel spreadsheet, click 📊 (**Start Excel**).

5   Appendix A: Ad hoc Reports Drilldown Example

The following is an example with illustrations for the drilldown view:

1. In the following illustration, the **Submission** dimension has been expanded by clicking on [➕] for **All Submissions**. The hierarchical child elements for All Submissions are **2009** and **2010**.

Facilities	Emissions	Submission	Gas	Measures
				⦿ Sum of Co2e Metric Tons
+All Facilities	+All Emissions	−All Submissions	+All Gases	76,597,336.29851
		+2009	+All Gases	59,527,526.45549
		+2010	+All Gases	17,069,809.84302

2. In the following illustration, 2009 and 2010 have been expanded by clicking on [➕] respectively for each element. 2009 displayed hierarchical child element **Accepted by MA DEP**, **Verification Accepted** and **Verification in Progress**, and 2010 displayed hierarchical child elements **Accepted by MA DEP**, **Verification Accepted**, **Verification in Progress** and **Verification Submitted**.

Facilities	Emissions	Submission	Gas	Measures
				⦿ Sum of Co2e Metric Tons
+All Facilities	+All Emissions	−All Submissions	+All Gases	76,597,336.29851
		−2009	+All Gases	59,527,526.45549
		Accepted by MA DEP	+All Gases	59,517,924.60577
		Verification Accepted	+All Gases	6,890.29548
		Verification in Progress	+All Gases	2,711.55424
		−2010	+All Gases	17,069,809.84302
		Accepted by MA DEP	+All Gases	3,593.79739
		Verification Accepted	+All Gases	16,950,985.33352
		Verification in Progress	+All Gases	103,529.68767
		Verification Submitted	+All Gases	11,701.02444

3. In the following illustration, the **Gas** dimension has been expanded by clicking on [+] for **All Gases**, for the hierarchical child element **Verification Submitted**, for the dimension **Submission**. The hierarchical child elements under All Gases are displayed.

				Measures
Facilities	**Emissions**	**Submission**	**Gas**	• **Sum of Co2e Metric Tons**
+All Facilities	+All Emissions	−All Submissions	+All Gases	76,597,336.29851
		−2009	+All Gases	59,527,526.45549
		Accepted by MA DEP	+All Gases	59,517,924.60577
		Verification Accepted	+All Gases	6,890.29548
		Verification in Progress	+All Gases	2,711.55424
		−2010	+All Gases	17,069,809.84302
		Accepted by MA DEP	+All Gases	3,593.79739
		Verification Accepted	+All Gases	16,950,985.33352
		Verification in Progress	+All Gases	103,529.68767
		Verification Submitted	−All Gases	11,701.02444
			CH4	.00087
			CO2	1.02100
			HFC-23	11,700.00000
			N2O	.00257

The data derived by using the drilldown system can be used for purposes of analysis. The values are represented in Measures column.

6 Appendix B: Ad hoc Reports Change Display Settings Example

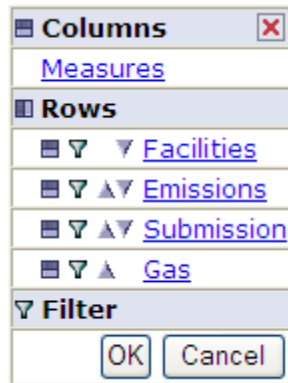The default display for ad hoc reports can be changed to suit your preferences for data display.

6.1 Pivoting Data

For the example discussed in this section, we will change the gases displayed on rows for the dimension Gas, to display in columns for Measures. The data that is displayed on the X-axis will be pivoted to display on the Y-axis. The procedure is discussed in the following with illustrations:

1. In the following illustration, the **Gas** dimension has been expanded by clicking on [➕] for **All Gases**. By default, the hierarchical child elements for All Gases are **CH4**, **CO2**, **HFC-23**, **N2O**, **R-407A** and **SF6**.
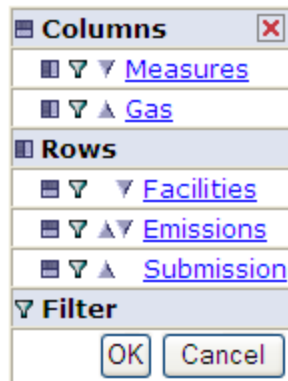
Facilities	Emissions	Submission	Gas	Measures
				◦ Sum of Co2e Metric Tons
+All Facilities	+All Emissions	+All Submissions	−All Gases	76,597,336.29851
			CH4	951,475.73273
			CO2	59,735,192.24820
			HFC-152	989.00000
			HFC-23	11,700.00000
			N2O	15,897,938.35358
			R-407A	40.94010
			SF6	.02390

2. The following illustration displays the **Change Display Settings** tool that is opened by clicking ⚙ to display default ad hoc reports measures and dimensions.
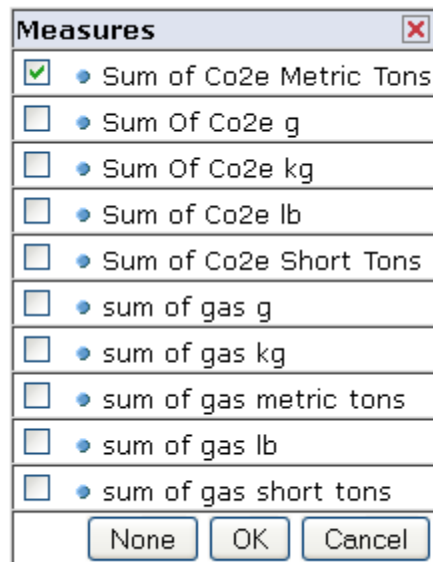

3. In the following illustration, the dimension **Gas** that was configured for **Rows** is now configured for **Columns** by clicking on ▦ icon for Gas. The dimension Gas is pivoted from X-axis to Y-axis.

4. The following illustration is displayed on clicking **OK** which saves the changes.

			Measures
			Sum of Co2e Metric Tons
			Gas
Facilities	**Emissions**	**Submission**	●+All Gases
+All Facilities	+All Emissions	+All Submissions	76,597,336.29851

5. In the following illustration, the **Gas** dimension has been expanded by clicking on [➕] for **All Gases**. The hierarchical child elements for All Gases: **CH4**, **CO2**, **HFC-23**, **N2O**, **R-407A** and **SF6**, which were displayed on rows, are now displayed on columns as values on Measures.

			Measures							
			Sum of Co2e Metric Tons							
			Gas							
Facilities	**Emissions**	**Submission**	●−All Gases	● CH4	● CO2	● HFC-152	● HFC-23	● N2O	● R-407A	● SF6
+All Facilities	+All Emissions	+All Submissions	76,597,336.29851	951,475.73273	59,735,192.24820	989.00000	11,700.00000	15,897,938.35358	40.94010	.02390

The gas dimension data has been pivoted from rows to columns. Similarly, you can arrange dimensions to filter or change the default view to suit your requirements.
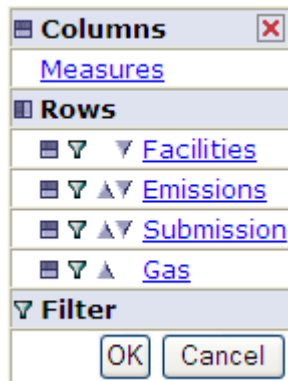
6.2 Filtering Datasets

Filtering datasets help to filter data as required and avoid the display of unnecessary data on the ad hoc reports screen. You can choose to filter based on: Facilities, Emission Activity Type, Submission Emission Years, and Gas types. For the example discussed in this section, we will display **Sum of Co2e Short Tons** in columns along with **Sum of Co2e Metric Tons** from Measures. We will also select Facilities **ABC BIORESEARCH FACILITY [Facility AQ ID: 123***1]** and **ABC EXAMPLE FACILITY [Facility AQ ID: 123***7]** to display on rows. The procedure is discussed in the following with illustrations:

1. In the following illustration, the default ad hoc reports screen is displayed.

				Measures
Facilities	**Emissions**	**Submission**	**Gas**	● **Sum of Co2e Metric Tons**
+All Facilities	+All Emissions	+All Submissions	+All Gases	76,597,336.29851

2. The following illustration displays the **Change Display Settings** tool that is opened by clicking ⚙ to display default ad hoc reports measures and dimensions.

3. In the following illustration, the hyperlink for the dimension **Measures** was clicked to display **Change Display Settings** tool for filtering dataset.
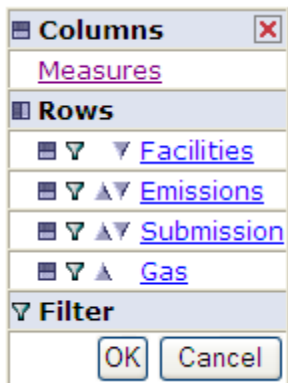
Note:

- Sum of CO2e Metric Tons is checked and is displayed as one of the default items on ad hoc reports.

- Clicking on 🔵 icon will enable an element to be moved. Clicking on the 🔺 icon of another element will move the enabled element, displayed by the 🔴 icon, to a position above the other element. Similarly, clicking on the 🔻 icon of another element will move the enabled element, displayed by the 🔴 icon, to a position below the other element.

4. In the following illustration, the checkbox for **Sum of CO2e Short Tons** is checked.

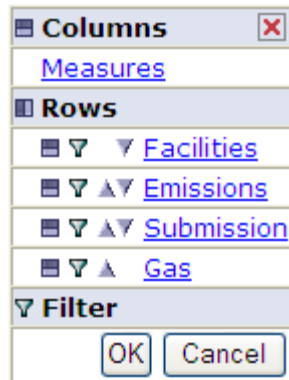5. The following illustration is displayed on clicking **OK**.

6. The following illustration is displayed on clicking **OK** from the **Change Display Settings** tool. Clicking **OK** will save changes and clicking **Cancel** will discard them.

				Measures	
Facilities	Emissions	Submission	Gas	Sum of Co2e Metric Tons	Sum of Co2e Short Tons
+All Facilities	+All Emissions	+All Submissions	+All Gases	76,597,336.29851	84,434,110.19432

Note: *Sum of CO2e Short Tons* is now displayed along with *Sum of CO2e Metric Tons*.

7. The following illustration displays the **Change Display Settings** tool that is opened by clicking 🔧 to display default ad hoc reports measures and dimensions.
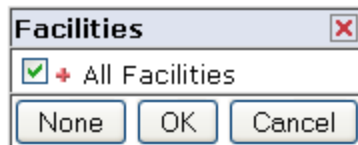

8. In the following illustration, the hyperlink for the dimension **Facilities** was clicked to display **Change Display Settings** tool for filtering dataset.
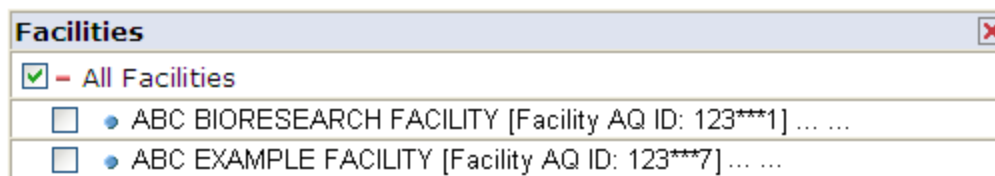

Note: Item *All Facilities* is checked and is displayed as one of the default items on ad hoc reports for dimension Facilities.

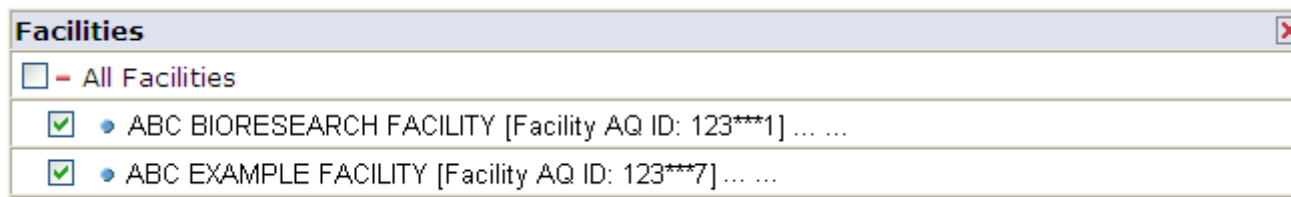9. In the following illustration, the element All Facilities has been expanded by clicking ➕.
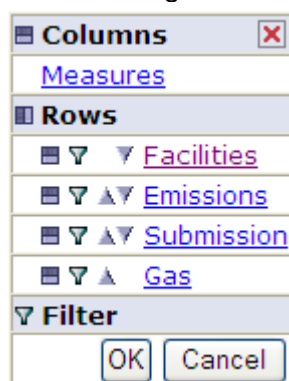
10. In the following illustration, the element All Facilities is unchecked and Facilities ABC BIORESEARCH FACILITY [Facility AQ ID: 123***1] and ABC EXAMPLE FACILITY [Facility AQ ID: 123***7] are selected.

11. The following illustration is displayed on scrolling down and clicking **OK** button.

12. The following illustration is displayed on clicking **OK** from the *Change Display Settings* tool. Clicking **OK** will save changes and clicking **Cancel** will discard them.

| Facilities | Emissions | Submission | Gas | Measures | |
				◦ Sum of Co2e Metric Tons	◦ Sum of Co2e Short Tons
ABC BIORESEARCH FACILITY [Facility AQ ID: 123***1]	+All Emissions	+All Submissions	+All Gases	9,224.70853	10,168.50055
ABC EXAMPLE FACILITY [Facility AQ ID: 123***7]	+All Emissions	+All Submissions	+All Gases	6,514.09615	7,180.56187

Note: The datasets are filtered displaying data for selected facilities ABC BIORESEARCH FACILITY [Facility AQ ID: 123***1] and ABC EXAMPLE FACILITY [Facility AQ ID: 123***7].

In the above example, filtered datasets were created for columns and rows. Similarly, you can create filtered datasets to display elements of your choice on ad hoc reports.